

WHAT IS CLAIMED IS:

1. A method of purifying nucleic acid from a sample containing the nucleic acid, the method comprising the steps of:

5 detachably connecting a nucleic acid trapping pipette tip containing a solid phase substance containing silica to a liquid sucking-and-discharging movable nozzle;

sucking a mixture of a substance for enhancing binding of the nucleic acid to said solid phase substance
10 into the nucleic acid trapping pipette tip connected to said liquid sucking-and-discharging movable nozzle from a predetermined container;

discharging the liquid in said nucleic acid trapping pipette tip after binding the nucleic acid in the sucked
15 mixture to said solid phase substance;

washing said solid phase substance in the state of binding the nucleic acid and the inside of said nucleic acid trapping pipette tip by sucking a washing solution into said nucleic acid trapping pipette tip after
20 discharging the liquid and then by discharging said washing solution from said nucleic acid trapping pipette tip;

sucking an eluting solution into said nucleic acid trapping pipette tip after washing; and

discharging the eluting solution containing the
25 nucleic acid removed from said solid phase substance into a purified product container.

2. A method of purifying nucleic acid according to claim 1, wherein said nucleic acid trapping pipette tip connected to said liquid sucking-and-discharging movable nozzle is exchanged to a new nucleic acid trapping pipette tip every
5 change of a sample to be treated.

3. A method of purifying nucleic acid according to claim 1, wherein the contact between said mixture and said solid phase substance is repeated plural cycles by once
10 discharging said mixture to said predetermined container after sucking said mixture into said nucleic acid trapping pipette tip and then by sucking said mixture into the same nucleic acid trapping pipette tip again.

15 4. A method of purifying nucleic acid according to claim 1, wherein in the step of washing said solid phase substance and the inside of said nucleic acid trapping pipette tip, the first washing solution is discharged from said nucleic acid trapping pipette tip and then a new
20 washing solution is sucked into and discharged from said nucleic acid trapping pipette tip.

5. A method of purifying nucleic acid according to claim 1, the method further comprising the steps of detachably
25 connecting a liquid pipetting tip to a liquid transferring nozzle; pipetting a washing solution from a washing solution bottle into said predetermined container using

said liquid pipetting tip; and sucking the washing solution pipetted in said predetermined container into said nucleic acid trapping pipette tip.

5 6. A method of purifying nucleic acid according to claim 1, the method further comprising the steps of detachably connecting a liquid pipetting tip to a liquid transferring nozzle; pipetting an eluting solution from an eluting solution bottle into said predetermined container using
10 said liquid pipetting tip; and sucking the eluting solution pipetted in said predetermined container into said nucleic acid trapping pipette tip.

15 7. A method of purifying nucleic acid according to claim 6, wherein said liquid pipette tip pipettes the eluting solution by dividing into plural times into said predetermined container, and said nucleic acid trapping pipette tip sucks the eluting solution from said predetermined container plural times.

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8. A method of purifying nucleic acid according to claim 1, wherein said binding enhancer is guanidine hydrochloride.

25 9. A method of purifying nucleic acid according to claim 1, wherein said washing solution is ethyl alcohol aqueous solution.

10. An apparatus for purifying nucleic acid from a sample containing the nucleic acid, which comprises:

5 a nucleic acid trapping pipette tip containing a solid phase substance containing silica capable of contacting with a liquid;

a liquid sucking-and-discharging movable nozzle detachably connecting said nucleic acid trapping pipette tip;

10 a treating container capable of containing a mixture of a substance for enhancing binding of said nucleic acid with said solid phase substance and a sample containing the nucleic acid;

means for supplying a washing solution to said treating container;

15 means for supplying a eluting solution to said treating container;

a purified product container for receiving a purified product of the nucleic acid;

20 transferring means for connecting said nucleic acid trapping pipette tip in an unused state to said liquid sucking-and-discharging movable nozzle and for moving said nucleic acid trapping pipette tip in a connected state to positions of said treating container and said purified product container;

25 liquid sucking-and-discharging operating means for sucking and discharging said mixture from and to said nucleic acid trapping pipette tip connected to said liquid

sucking-and-discharging movable nozzle, and sucking and discharging said washing solution, and then sucking and discharging said eluting solution; and

tip detaching means for detaching said nucleic acid trapping pipette tip from said liquid sucking-and-discharging movable nozzle after discharging the eluting solution from said nucleic acid trapping pipette tip to said purified product container.

10 11. An apparatus for purifying nucleic acid according to claim 10, wherein said nucleic acid trapping pipette tip comprises a liquid communicable preventive member for preventing said solid phase substance in said nucleic acid trapping pipette tip from flowing out.

15 12. An apparatus for purifying nucleic acid according to claim 11, wherein said preventive member is made of poly(vinylidene fluoride).

20 13. An apparatus for purifying nucleic acid according to claim 11, wherein said preventive member is arranged at a position nearer to a connecting terminal with said liquid sucking-and-discharging movable nozzle than a containing region of said solid phase substance, and has an insertion
25 assisting guide formed therein.

14. An apparatus for purifying nucleic acid according to

claim 10, which comprises a liquid pipette tip for pipetting said sample and said binding enhancer to said treating container.

Add A₂

1. A liquid pipette tip for pipetting a sample and a binding enhancer to a treating container.